

DISCUSSION OF THE AMENDMENT

Claim 1 has been amended by inserting that the carbamidated cellulose II phosphate --is produced from a dried cellulose II--, as supported in the specification at, for example, paragraph [0029].

No new matter is believed to have been added by the above amendment. Claims 1, 3-9, 13, 15, 17 and 19-30 remain pending in the application. Claims 1, 3-9, 13, 15, 17, 19-22 and 29 are active; Claims 23-28 and 30 stand withdrawn from consideration, but are subject to rejoinder.

REMARKS

Applicants thank the Examiner for the courtesy extended to Applicants' attorney during the interview held October 29, 2009, in the above-identified application. During the interview, Applicants' attorney explained the presently-claimed invention and why it is patentable over the applied prior art, and discussed other issues raised in the Office Action. The discussion is summarized and expanded upon below.

The rejection of Claims 1, 3-5, 8, 9, 13, 15, 17, 19-22 and 29 under 35 U.S.C. § 102(b) as anticipated by WO 99/28372, by its equivalent US 6,579,977 (Pieschel et al), with Kroon-Batenburg et al, *Glycoconjugate Journal*, 14: 677-690 (Kroon-Batenburg et al) “to support inherency,” is respectfully traversed.

As recited in above-amended Claim 1, an embodiment of the present invention is a carbamidated cellulose II phosphate, wherein said cellulose II phosphate has a degree of phosphorylation of from 3 to 20 wt% in terms of phosphorus content, and which is produced from a dried cellulose II.

As previously pointed out, Pieschel et al, which is from the same patent family as WO 99/28372, as can be confirmed by the cover page thereof, is described in the specification herein as Patent Document 2 [0008], and as describing a method for enhancing the mechanical strength of fibers by using sulfur powder upon production of cellulose phosphate [0007]. Particularly, Pieschel et al discloses a process for producing biosorbents by phosphorylation of cellulose-containing materials with phosphoric acid or ammonium phosphate in the presence of urea (column 1, lines 9-12).

The Examiner relies on the first paragraph of Kroon-Batenburg et al, which states that one way that cellulose II is obtained from cellulose I is by “derivatization, dissolution and recovery.” The Examiner finds that *derivatization* means that any derivative of cellulose I, such as the phosphorylation product thereof, will produce a cellulose II phosphate.

In reply, and as Applicant's attorney explained during the above-referenced interview, Kroon-Batenburg et al describes, not only derivatization, but derivatization, dissolution and recovery, which means that derivatization is essential for the next processing step of dissolution, since cellulose I must be solubilized. In addition, Zeronian et al, discussed *infra*, discloses both cellulose I phosphate and cellulose II phosphate. If phosphorylating cellulose I necessarily resulted in producing cellulose II phosphate, there could be no cellulose I phosphate produced in this way. Thus, Pieschel et al's product does not inherently meet the terms of the presently-claimed invention.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The rejections under 35 U.S.C. § 103(a) of:

Claims 1, 3-9, 13, 15, 17, 19-22 and 29 as unpatentable over Pieschel et al in view of US 4,851,120 (Reineke et al),

Claims 1, 3-5, 9, 13, 15, 19-22 and 29 as unpatentable over Padilha et al, *Talanta* 45 (1997) 317-323 (Padilha et al) in view of US 2,482,755 (Ford et al) and Zeronian et al, *Journal of Applied Polymer Science*, Vol. 25, 519-528 (1980) (Zeronian et al),

Claims 1, 3, 4, 6, 7, 9, 13, 15, 19-22 and 29 as unpatentable over Reineke et al in view of Zeronian et al, and

Claims 1, 2, 4, 8, 9, 13, 15, 17, 19-22 and 29 as unpatentable over US 3,691,154 (Bernardin) in view of Zeronian et al,

are respectfully traversed.

Regarding the rejection over Pieschel et al in view of Reineke et al, since it has been established above that the product of Claim 1 is not inherently met by Pieschel et al's product, the rejection is moot, since Reineke et al neither discloses nor suggests a cellulose II phosphate.

Regarding the remaining rejections under 35 U.S.C. § 103(a), they have been repeated from the previous Office Action. Applicants incorporate by reference the arguments made in the Amendment filed May 12, 2009.

In addition, and as advanced by Applicants' attorney during the interview, the Yabusaki Declaration of record is still pertinent to all these rejections and is commensurate in scope with the claims when it is understood what its purpose is. The Yabusaki Declaration has been submitted simply to show how the presence of water in cellulose II as a reactant to make carbamidated cellulose II phosphate affects the adsorption capacity thereof. The Yabusaki Declaration is direct evidence in rebuttal of the closest prior art applied by the Examiner, i.e., Zeronian et al, which, as previously pointed out by Applicants, teaches away from the use of a dry mercerized cellulose, i.e., a dried cellulose II.

Applicant respectfully submits that the Yabusaki Declaration is pertinent to all the above-listed rejections under 35 U.S.C. § 103(a) and proves a result not predictable and in fact, taught away from the closest prior art.

For all the above reasons, it is respectfully requested that this rejections be withdrawn. The rejection of Claims 19-22 and 29 under 35 U.S.C. § 112, second paragraph, as "broad," in the recital of the term "dried cellulose II," is respectfully traversed.

The Examiner previously found that the above-quoted term was indefinite, but has withdrawn this ground in view of the new ground that the term is "broad."

In reply, breadth as a reason for claims not meeting the terms of 35 U.S.C. § 112, second paragraph is not the law. As stated in *In re Borkowski*, 422 F.2d 904, 164 USPQ 642, 645-46 (CCPA 1970):

The examiner's approach to determining whether appellants' claims satisfy the requirements of §112 appears to have been to study appellants' disclosure, to formulate a conclusion as to what he (the examiner) regards as the broadest invention supported by the disclosure, and then to determine whether appellants' claims are broader than the examiner's conception of what "the invention" is. We cannot agree that §112 permits of such an approach to claims. The first sentence

of the second paragraph of §112 is essentially a requirement for *precision and definiteness* of claim language. If the scope of subject matter embraced by a claim is clear, and if the applicant has not otherwise indicated that he intends the claim to be of a different scope,<sup>3</sup> then the claim does particularly point out and distinctly claim the subject matter which the applicant regards as his invention.

The term “dried”, as Applicants’ attorney pointed out during the interview, must be considered in light of the understanding of those in this art. Zeronian et al, supra, is an example that the concept of drying in this art, especially the drying of cellulose, is a known concept. Clearly, persons skilled in this art would understand what is meant by dried cellulose II.

Accordingly, it is respectfully requested that the rejection be withdrawn.

The rejection of Claims 19-22 and 29 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, is respectfully traversed.

As noted by Applicants’ attorney during the interview, while the specification describes specifically drying at 70°C for six hours, one skilled in the art would appreciate that Applicants possessed as of the filing date dried cellulose II *per se*, not only such cellulose II dried under one specific temperature for one specific time. As discussed above with regard to the rejection under 35 U.S.C. § 112, second paragraph, drying in this art is a well-understood concept.

Accordingly, it is respectfully requested that the rejection be withdrawn.

All of the presently-active claims in this application are now believed to be in

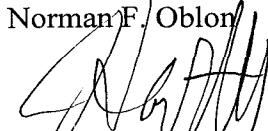
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immediate condition for allowance. The Examiner is respectfully requested to rejoin the non-elected claims of even scope and in the absence of further grounds of rejection, pass this application to issue with all pending claims.

Respectfully submitted,

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